

**Notice of Allowability**

Application No.

10/799,579

Examiner

Charlie Peng

Applicant(s)

NAKATA ET AL.

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 20 March 2006.
2. ☒ The allowed claim(s) is/are 1 and 3-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**BRIAN HEALY**  
**PRIMARY EXAMINER**  
**ART UNIT 2512883**

## **DETAILED ACTION**

### ***Drawings***

Replacement drawings are accepted.

### ***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

Claim 1 is allowed. Katayama and Kurokawa previously cited teach the array waveguide grating and the movable mirror array except for the movable mirrors having dented reflecting faces and an angle of reflection being set by moving the dented reflection faces. While dented (commonly "V-grooved") reflection faces are known in the art, they are used for switch the paths of light signals, i.e., light inputting path into the reflection face is different from light outputting path out of the reflection face. The movable mirrors taught by relevant prior art only teach a straight reflection face, i.e., light inputting path is same as light outputting path by the straight reflection face. It would not be possible to apply such a dented reflection face to prior art without destroying its original structure and functionality. It is the examiner's position that the prior art of record, taken alone or in combination, fails to disclose or render obvious the dented reflection face in combination with the rest of the limitations of the base claim.

Claim allowed as a dependent claims of the allowed claim 1.

Claim 4 is allowed. Katayama and Kurokawa teach the array waveguide grating and the movable mirror array except for the movable mirrors having dented reflecting faces and an angle of reflection being set by moving the dented reflection faces. While dented (commonly "V-grooved") reflection face are known in the art, they are used for

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switch the paths of light signals, i.e., light inputting path into the reflection face is different from light outputting path out of the reflection face. The movable mirrors taught by relevant prior art used with array waveguide grating only teach a flat reflection face, i.e., light inputting path is same as light outputting path by the straight reflection face. It would not be possible to apply such a dented reflection face to prior art without destroying its original structure and functionality. It is the examiner's position that the prior art of record, taken alone or in combination, fails to disclose or render obvious the dented reflection face in combination with the rest of the limitations of the base claim.

Claim 5 and 9 are allowed by virtue of being dependent upon claim 4.

Claim 6 is allowed. Prior art by Katayama and Kurokawa both teach all the limitations by claim 6 except for a movable girder having the same under-clad, core, over-clad layer structure as the array waveguide diffraction grating. Katayama and Kurokawa both teach the movable mirror array to be a separately constructed part from the array waveguide grating and to have a different structure than the array waveguide grating. Relevant prior art also do not teach a movable mirror being attached to the end of said movable girder in use with an array waveguide grating. As such, no combination is possible without destroying the structure and functionality of the prior art. It is the examiner's position that the prior art of record, taken alone or in combination, fails to disclose or render obvious a movable girder having the same under-clad, core, over-clad layers structure as the array waveguide diffraction grating in combination with the rest of the limitations of the base claim.

Claim 7 and 8 are allowed by virtue of being dependent upon claim 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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PRIMARY EXAMINER  
ART UNIT ~~2883~~ 2893